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92-01221/

CANMET

Canada Centre
for Mineral
and Energy
Technology

Centre canadien
de la technologie
des minéraux
et de l'énergie

ISO/TC 69/SC 6. WG 1 AND WG 4 MEETINGS, PARIS, FRANCE, 1991-09-16/20
ACCURACY 91, GENEVA, 1991-09-23/24

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October 1991

(For submission to the Standards Council of Canada)

Project 30.69.02.01

International Standards Organizations

14 pp

MINERAL SCIENCES LABORATORIES
DIVISION REPORT MSL 91-97 (TR)

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MICROMEDIA

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**ISO/TC 69/SC 6, WG 1 and WG 4
Meetings, Paris, France, 1991-09-16/20**

and

**Accuracy 91
Geneva, Switzerland, 1991-09-23/24**

by

R. Sutarno*

SUMMARY

The main purpose of these meetings were to complete the draft of various parts of ISO 5725 and to communicate them to their potential users (ISO product committees). ISO 5725 Parts: 1, 2, 3, 4 and 6 are now complete and ready for publication as standards. These new draft standards have been presented, in conjunction with various ISO Guides published by REMCO, to the potential users (ISO product technical committees) at the Accuracy 91 workshop held in Geneva. Parts 1 and 2 were basically the "old" ISO 5725. Parts 3, the intermediate precision measures, Part 4, the basic method for the determination of trueness and Part 6, practical application, are newly added to this version of ISO 5725.

From the outset, Canada has been an active participant for the development of the new version of ISO 5725. It has contributed as the principal author for Part 4 and two of the six sections of Part 6. However, because of the change of SCC policy on travel subsidy to Canadian delegates to ISO meetings, the author will no longer be able to attend future meetings of this committee; consequently he will no longer be able to serve as convener of ISO/TC 69/SC 6/WG 4, a joint working group between ISO/TC 69/SC 6 and ISO/REMCO.

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ISO/TC 69/SC 6
APPLICATION OF STATISTICAL METHODS
MEASUREMENT METHODS AND RESULTS

13 th. Meeting, Paris, September 16-20, 1991

Member bodies represented: Brazil, Canada, China, Denmark, France, Iran, Germany, Japan, Poland, Sweden, UK, USA and USSR.

Secretariat: DIN (Germany).

The plenary subcommittee meeting was basically organizational in nature, the technical discussions were conducted at the working group meetings which were held concurrently throughout the week (WG 1, WG 4 and WG 5). WG 3 did not officially meet; although some WG 3 members held informal discussions. In addition, the organizing committee for Accuracy 91 met informally to finalize the arrangement for the workshop.

Working Group 1 - Revision of ISO 5725,

W. Oakland (UK)- Convener,

WG 1 met for one and half days. The draft ISO 5725: Accuracy (trueness and precision) of measurement methods and results: Parts 1,2,3,4 and 6 have been circulated to ISO members at large as ISO/DIS for comment and voting. The voting results are as follow:

<u>Part</u>	<u>Affirmative</u>		<u>Negative</u>		
	No.	%P members	No.	% Votes	
ISO/DIS 5725-1	21	100	1	5	Austria (o)
ISO/DIS 5725-2	20	100	1	5	Austria (o)
ISO/DIS 5725-3	Voting dead line was September 30, 1991*				
ISO/DIS 5725-4	20	100	1	5	Austria (o)
ISO/DIS 5725-6	19	92	2	10	Austria (o), Netherlands (P)

Numerous comments by ISO member bodies were discussed and, if relevant, incorporated with the document. The modified draft for Parts: 1,2,4 and 6 will be sent to the Central Secretariat for publication as ISO Standards. USA voted negative on Part 3. The reasons for this negative vote were discussed and the US delegate offered to take back the modified document to their national committee. Assuming that USA vote is reversed, then Part 3 will also be sent to the Central Secretariat for publication as an ISO Standard.

Part 5: Alternative methods for the determination of precision of a test method.

This part was drafted by USA. It will still be circulated as a Committee Draft (CD) stage document for comment.

Working Group 4 - Statistical Aspects of Reference Materials -
R. Sutarno (Canada) Convener.

Working Group 4 met on September 18 afternoon. WG 4 is working in close cooperation with REMCO Task Group 2 - Calibration. The main project of WG 4 at the moment is to develop a document on the Uses of Reference Materials for Calibration. This project is carried out by WG 4 in response to the request of REMCO to TC 69 to develop statistical aspects of the use of reference materials for calibration of equipment. This new work item has been approved by member bodies. A document ISO/TC 69/SC 6/WG 4 N32 "Linear calibration using reference materials", drafted by M. Carey of USA was discussed in detail. The document introduces control chart concept in calibration process. It was agreed that this document, modified in accordance with comments made at the meeting, will be submitted to the secretariat of ISO/TC 69/SC 6 for registration and circulation as a CD.

Because of the change in SCC travel subsidy policy, i.e. SCC will no longer grant travel subsidy to Federal Government employ, R. Sutarno will no longer be able to attend future meeting and resigned from the con-venership of this working group. The subcommittee has appointed Dr. M. Carey of USA as the new con-veners.

ITEMS FOR FUTURE WORK

Two projects are on the subcommittee's plate:

1. Development of standard on rounding measurement results
2. Standard on test for departure from normal distribution

Item No. 1 is important for trade purpose. Non standardized rounding off observation results could create disputes between vendor and customer. Canada will participate in this work item.

Nine resolutions were approved at this meeting; they are appended to this report.
ISO/TC 69, its subcommittees and working groups will meet in London, UK in 1992.

'ACCURACY 91'**A WORKSHOP ON PROTOCOLS FOR ASSESSMENT AND CONTROL
OF ACCURACY OF INTERNATIONAL STANDARD METHODS.****Geneva, September 23-24, 1991**

Accuracy is one of the most important criteria of an international standard method of measurement (ISO standard). Accuracy of an ISO standard measurement method must be assessed during the development and must be controlled during the routine application of the standard. Both the assessment and the control of the precision are carried out by the proper application of statistical methods; and the assessment and the control of the trueness are carried out by proper use of suitable reference materials. ISO/TC 69 has been entrusted by ISO Council with the function of advisor to all ISO technical committees in matters concerning the application of statistical methods in standardization. Matters related to reference materials are within the domain of REMCO, an ISO council committee. In order to harmonize the work of technical committees within ISO, a good liaison between these two committees and other technical committees is necessary. The purpose of this workshop was to foster such harmonization.

Sponsors: This workshop was sponsored by ISO Central Secretariat in cooperation with REMCO and ISO/TC 69.

Location: ISO Central Secretariat, 1 rue de Varembe, Geneva, Switzerland

Participants: The workshop was attended by forty five delegates from thirteen countries representing ten ISO Technical Committees and other concerned organizations having liaison with ISO (IUPAC, AOAC etc.).

Papers: Sixteen papers were presented as planned by members of both ISO/TC 69/SC 6 and REMCO. COMAR data base software was demonstrated throughout the two day workshop. List of these papers is appended.

RECOMMENDATION

ISO/TC 69 is an ISO technical committee that has been entrusted by the ISO Council, with a function of advisor to all ISO technical committees in matters concerning the application of statistical methods in standardization. For many product technical committees, statistical methods are used as a means of measuring and controlling accuracy; an important attribute for international standard methods. Statistical methodology is an indispensable tool for the implementation of quality assurance management, an important tool for competitiveness in the nineteen nineties. To implement this task, ISO/TC 69 is issuing a new version of ISO 5725, a generic standard method for measuring accuracy of measurement methods and results. Together with various ISO Guides issued by REMCO, this standard will provide *all ISO technical committees* with a method to measure and control the accuracy of the standard methods they produce. The success of this workshop has demonstrated the need for harmonization of the accuracy control of standard methods. This need was triggered by the recent awareness of "product quality" and "quality of environment" by both industries and consumer. In the past few years, Canada has been taking an active

part in fostering this harmonization. Statistical methodology is the essential tool for the standardization of measurement methods. It is not restricted to a particular commercial product lines. As a result it must be maintained and it is recommended that the Standards Council of Canada, in view of the serious negative impact of letting this role decline, ensure that Canada continue to play an active role.

ISO/TC 69/SC 6

Resolution made at the Paris meeting, September 1991Resolution 1, 1991

ISO/TC 69/SC 6 accepts the resignation of Mr. Oakland from the convenership of its WG 1 with regret. ISO/TC 69/SC 6 appoints Dr. Sym to be the new convener.

Resolution 2, 1991

ISO/TC 69/SC 6 asks its WG 3 to agree on a final working draft of its document on measurement uncertainty and to make it available to the secretary of ISO/TC 69/SC 6. This document shall then be registered and circulated as a Committee Draft. If the final working draft is not available by 1992-03-15 the secretary is asked to arrange for registration and circulation of doc. ISO/TC 69/SC 6 N241 as a Committee Draft.

Resolution 3, 1991

ISO/TC 69/SC 6 resolves that doc. ISO/TC 69/SC 6/WG 6 N32, "Linear calibration using reference materials", as amended by ISO/TC 69/SC 6/WG 4 during its meeting in 1991-09-18 is ready for registration and circulation as a Committee Draft and asks the secretariat of ISO/TC 69/SC 6 to take the necessary action. At the same time REMCO shall be asked to comment on this Committee Draft.

Resolution 4, 1991

ISO/TC 69/SC 6 accepts the resignation of Dr. R. Sutarno from the convenership of its WG 4 with regret. ISO/TC 69/SC 6 appoints Dr. M. Carey to be the new convener.

Resolution 5, 1991

ISO/TC 69/SC 6 resolves that doc. ISO/TC 69/SC 6 N 232, "Decision limit, detection limit, capability of detection", amended by ISO/TC 69/SC 6/WG 5 through its doc. ISO/TC 69/SC 6/WG 5 N35 and through modification made during the meeting of ISO/TC 69/SC 6/WG 5, 1991-09-18/19, is ready for registration and circulation as a Committee Draft and asks the secretariat of ISO/TC 69/SC 6 to take the necessary action.

Resolution 6, 1991

ISO/TC 69/SC 6 resolves that the Draft International Standards 5725 Parts 1, 2, 4, 6 as editorially amended by ISO/TC 69/SC 6/WG 1 during its meeting in 1991-09-16/17 be forwarded by the secretary of ISO/TC 69/SC 6 to ISO Central Secretariat for publication as International Standards.

- to review all comments on ISO/DIS 5725-3 as soon as they are available
- to prepare an amended manuscript under procedure b) of clause 2.5.4 of the ISO directive part 1
- to make this available to the secretariat of ISO/TC 69/SC 6

ISO/TC 69/SC 6 asks its secretary then to forward the amended manuscript for the two month vote.

Resolution 8, 1991

ISO/TC 69/SC 6 asks all members to send recommendation on doc. ISO/TC 69/SC 6 N 238, "Test for departure from the normal distribution", to the secretary by the end of November 1991.

ISO/TC 69/SC 6 asks its chairman:

- to prepare a revised version of the above document
- to correspond with Mr. Bailey, Mr. Brunschwig, Dr. Carey, Dr. Ojima and Dr. Sym to develop the document further

The secretary shall then arrange for registration and circulation of the document to ISO/TC 69/SC 6 for consideration at the next meeting.

Resolution 9, 1991

ISO/TC 69/SC 6 asks ISO/TC 69 to adopt the following resolution:

ISO/TC 69 notes that the subject matter covered by the document ISO/REMCO N 231 "Harmonized proficiency testing protocol" belongs to the scope of ISO/TC 69 and therefore proposes that ISO/TC 69 recommends that the task of preparing International Standards on the subject be allocated to TC 69 and the basic standards on statistical terminology and accuracy of measurement methods and results to be used. ISO/TC 69 will invite the author of the document to participate in the preparation.

TECHNICAL COMMITTEES REPRESENTED AT THE ACCURACY 91

ISO/TC 17	Steel
ISO/TC 27	Solid mineral fuels
ISO/TC 34	Agriculture food products
ISO/TC 37	Terminology (principles and coordination)
ISO/TC 47	Chemistry
ISO/TC 69	Application of statistical methods
ISO/TC 102	Iron ores
ISO/TC 112	Vacuum technology
ISO/TC 155	Nickel and nickel alloys
ISO/TC 183	Copper, lead and zinc ores and concentrates
ISO/REMCO	Reference materials committee
ISO	Central Secretariat
AOAC	Association of official analytical chemists
Union of Japanese Scientist & Engineers	

LIST OF PAPER PRESENTED AT "ACCURACY 91"

1. ISO Organizational structure including functions of horizontal committees - M.A. Smith, Director of Planning and Technical Coordination Department, ISO.
2. ISO/REMCO - Dr. S. D. Rasberry, ISO/REMCO, NIST, USA.
3. ISO/TC 69 - C. Petitjean, AFNOR, Secretary of ISO/TC 69.
4. ISO 5725 Parts 1,2 Part 6 Section 2 & 3 - W. H. Oakland, ISO/TC 69/SC 6/WG 1, UK.
Accuracy (trueness and precision) of measurement methods and results - General principles and definitions.
A basic method for the determination of repeatability and reproducibility of a standard measurement method.
Practical applications - Determination and uses of limits.
5. ISO Guides 30 & 31 - Dr. A. Marschal, LNE, France.
Term and definitions used in connection with reference materials.
Contents of certificates of reference materials.
6. ISO Guide 35 - Dr. K. R. Eberhardt, NIST, USA.
Certification of reference materials.
7. ISO Guide 33 - Dr. P. De Bievre, EC Central Bureau for Nuclear Measurements, Belgium.
Uses of certified reference materials.
8. ISO 5725 Part 4 - Prof. P. T. Wilrich, ISO/TC 69/SC 6, Germany.
Basic methods for estimating the trueness of a test method.
10. Problems of outliers - Dr. J. Mandel, USA.
11. ISO 5725 Part 3 - Prof. T. Miyazu and H. Yamamoto, The Nishi Tokyo University, Japan.
Intermediate measures of precision of a test method.
12. ISO 5725 Part 6 Section 4 - Dr. K. Nishina, Nagoya Institute of Technology, Japan.
Practical applications - Checking method for the stability of results within a laboratory
13. ISO 5725 Part 6 Section 5 - Dr. K. Zedeler, Denmark.
Practical applications - The use of repeatability and reproducibility in assessing laboratories
14. ISO 5725 Part 6 Section 6 - Dr. M. Carey, AT&T, USA.
Practical applications - Comparison of alternative measurement methods

15. Adaptation of ISO 5725 by ISO/TC 102 (Iron ores) and ISO/TC 183 (Copper, lead and ores and concentrates) - Dr. R. Sutarno, CANMET, Canada.
16. Adaptation of ISO 5725 by ISO/TC 17 (Steel) and ISO/TC 27 (Solid mineral fuels) - Dr. Y. Ojima, Science University of Japan and M. Saeki, Chairman of ISO/TC 17 (Steel), Japan.
17. COMAR reference materials data base - Dr. A. Marschal, LNE, France.
Demonstration on the operation of REMCO's COMAR reference materials data base will be held outside the conference room during the two days workshop period.



23-24 September 1991

ACCURACY 91

A workshop on protocols for assessment and control of accuracy
of international standards methods
Geneva, September 1991

Attendance List

Anton Alink	Netherlands Measurements Institute	Schoemaker Straat 97, P.O. Box 654, 2600 AR Delft, Netherlands
Shigeo Aoki	Union of Japanese Scientists & Engineers	5-10-11, Sendagaya, Shibuya-ku, Tokyo 151, Japan
St. John H. Blakeley	Secretary of ISO/TC 155/SC 3 and 4	c/o INCO Limited 2060 Flavelle Blvd Mississauga, Ontario, Canada L5K 1Z9
Michèle Carey	AT & T Bell Labs	Holmotel, NJ 07738, USA
Paul De Bièvre	EC - Central Bureau for Nuclear Measurements	B-2440 Geel (Belgium)
Keith Eberhardt	National Inst of Standards & Technology	Admin. Bldg., Room A 337 Gaithersburg, MD 20899, USA
Eugenj Efremov	State Association Agrochemistry	Pryanishnikov St. 31/2, CINAO, Moscow, 127550, USSR
Rolf Flykt	AB Sandvik Steel	45-STK, S-81181 Sandviken (Sweden)
G. Golovkin	Inst. Plant Protection	Ugreshscya 31, Moscow, 109088, USSR
A. Gorchkov	ISO Central Secretariat	1 Rue de Varembe, 1202 Genève
Klaus Graebig	Secretariat of ISO/TC 69/SC 6 German Standards Institute	Burggrafenstrasse 6 D-1000 Berlin 30
William Horwitz	Food & Drug Administration	HFF-7, Washington, DC 20204, USA
Bernard Jacob (représente M. Brunswick)	Laboratoire Central des Ponts et Chaussées	58 Bd Lefebvre F-75015 Paris, France

Kazutoshi Kakita	Secretariat of ISO/TC 17/SC 1 (ISIJ)	Nippon Bldg, Annex 10 F, 2-7-1 Otemachi, Chiyodaku, Tokyo, Japan
L. Lapidus	ISO/TC 112 GOST	Leninsky Prospect 9, Moscow, USSR
Bo Larsson	AB Sandvik Steel	45-STK, S-81181 Sandviken (Sweden)
R.E. Lawn	Laboratory of the Government Chemist	Queens Road, Teddington, Middlesex, TW11 0LY, United Kingdom
John Mandel	National Inst. of Standards & Technology	Chem. Bldg., Room A 323 Gaithersburg, MD 20899, USA
Margret Mansson	Swedish National Testing and Research Institute (ISO/TC 27/SC 5/WG 9)	P.O. Box 857 S-50115 Boras, Sweden
A. Marschal	Laboratoire National d'Essai	1 Rue Gaston Boissier, F-75015 Paris (France)
R.P. Meeres	Bureau of Analysed Samples, Ltd, UK	Newham Hall, Newby, Middlesbrough, Cleveland, England, TS8 9EA
Takashi Miyazu	Chairman of National Committee of ISO/TC 69/SC 6	Uenohara Machi, Yamanashi-Ken, Japan 409-01
Ken Nishina	Nagoya Institute of Technology	Gokiso-cho, Showa-ku, Nagoya 466, Japan
W.H. Oakland	ISO/TC 69/SC 6/WG 1	18, Woodlands Rise, Swanley, Kent BR 8 7JT, England
Yoshikazu Ojima	Science University of Tokyo	Noda, Chiba, 278, Japan
Takashi Otsuki	ISO/TC 17/SC 1 Secretariat (ISIJ)	Nippon Bldg, Annex 10 F, 2-7-1 Otemachi, Chiyodaku, Tokyo, Japan
John R. Owen	Secretary of ISO/TC 183	Standards Australia, 80 Arthur St North Sydney, Australia
Mr. Petitjean	AFNOR - France	Tour Europe, 92049 Paris La Défense, France
J. Poulleau	Ineris - France	B.P No 2 60550 Verneuil-en-Halatte, France
Subhash C. Puri	Agriculture Canada	RM. 429- Sir Joan Carling Bldg, Ottawa, Ontario, Canada K1A 0C5
R. Rajeswaran	ISO Central Secretariat	1 Rue de Varembe 1202 Genève

S.D. Raspberry	ANSI - USA Chair of REMCO	NIST Gaithersburg 20899 USA
Alexandre Remisov	Agrochim	Grichevetchkay 2, Moscow, USSR
P.D. Ridsdale	Bureau of Analysed Sampled Ltd,	Newham Hall, Newby, Middlesbrough, Cleveland, England TS8 9EA
M.A. Smith	ISO Central Secretariat	1 Rue de Varembe 1202 Genève, Suisse
R. Sutarno	Canmet, Canada ISO/TC 102/SC 2/WG 12 ISO/TC 183/WG 10	555 Booth St. Ottawa, Ontario, Canada, K1A 0G1
Ruud Wieleman	Secretariat of ISO/TC 47 + ISO/TC 47/SC 1 NNI, Netherlands Standardization Institute	Kaltjeslaan 2, 2600 GB Delft Netherlands
Peter T. Wilrich	Freie Universität Berlin	Garystrasse 21 D-1000 Berlin 33, Germany
Mrs. Yarina	NJJM (USSR)	Svezdlowak, Colsevaia, 12
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